[07-09-09E-T10-Problems]

Absolute value inequalities involving rational expressions

■ **Answer the following using interval notation.**
A graph is <u>not</u> required, but may be helpful to you.

[1] Find all values of x for which $\left|\frac{x+3}{x-3}\right| > 4$ is true.

[2] Find all values of x for which $\left|\frac{x-4}{x-2}\right| \leq 5$ is true.

[3] Find all values of x for which $\left|\frac{x-4}{x-2}\right| \leq 1$ is true.

[4] Find all values of x for which $\left|\frac{x-4}{3}\right| \leq 1$ is true.

[07-09-09E-T10-Answers]

Absolute value inequalities involving rational expressions

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[1] $(\frac{9}{5}, 3) \bigcup (3, 5)$

[2] $(-\infty, \frac{3}{2}] \bigcup [\frac{7}{3}, \infty +)$

[3] $[3, \infty +)$

[4] $[1, 7]$